

**IN THE CLAIMS**

Please amend the claims as follows:

- 1        17. (Currently Amended) A synchronization pulse detector, comprising:
  - 2              a shape detector for processing samples of an input signal having a synchronization pulse
  - 3              and a plurality of non-synchronization pulses to determine whether such samples have a
  - 4              predetermined sequence;
    - 5                  said predetermined sequence being a first, non-time varying portion, followed by a first,
    - 6                  time-varying portion, followed by a second, non-time varying portion, followed by a second,
    - 7                  time-varying portion, followed by a third, non-time varying portion, one of the first and second,
    - 8                  time-varying portions having a positive slope and the other one of the first and second, time-
    - 9                  varying portions having a negative slope;
  - 10             wherein the slope of the time varying portions are determined by comparing said input
  - 11             signal to a specified criterion based in part of the various slope requirements for the time varying
  - 12             portions
- 13             a time window for determining whether said samples are produced at a predetermined
- 14             rate expected for the series of synchronization pulses; and
- 15             a voltage window for determining whether the average value of one of said second time-
- 16             varying portions is substantially lower or the same as, but higher than the lower DC value
- 17             detected within the time-equivalent of a segment of video.
- 1        18. (Previously Presented) The detector as claimed in claim 17, wherein said shape detector
- 2        produces a pulse when said predetermined sequence is detected.

1       19. (Currently Amended) A synchronization pulse detector, comprising:

2              a shape detector for processing samples of an input signal having a series of

3       synchronization pulses and a plurality of non-synchronization pulses to determine whether such

4       samples have a predetermined sequence;

5              said predetermined sequence being a first, non-time varying portion, followed by a first,

6       time-varying portion, followed by a second, non-time varying portion, followed by a second,

7       time-varying portion, followed by a third, non-time varying portion, one of the first and second,

8       time-varying portions having a positive slope and the other one of the first and second, time-

9       varying portions having a negative slope, wherein the slope of the time varying portions are

10      determined by comparing said input signal to a specified criterion based in part of the various

11      slope requirements for the time varying portions;

12      said shape detector producing a shape detection pulse each time said predetermined

13      sequence is detected; and

14      a time window for determining whether said shape detection pulse is produced at a

15      predetermined rate expected for the series of synchronization pulses; and

16      a voltage window for determining whether the average value of one of said second time-

17      varying portions is substantially lower or the same as, but higher than the lower DC value

18      detected within the time-equivalent of a segment of video; and

19      an evaluator responsive to the produced shape pulse detection pulses for determining

20      whether such shape detection pulses are produced at a predetermined rate expected for the series

21      of synchronization pulses.

- 1    20. (Currently Amended) A synchronization pulse detector, comprising:
- 2                 a shape detector for processing samples of an input signal having a series of
- 3                 synchronization pulses and a plurality of non-synchronization pulses, each one of said
- 4                 synchronization pulses preceding a segment of the input signal having non-synchronization
- 5                 pulses, to determine whether such samples have a predetermined sequence;
- 6                 said predetermined sequence being a first, non-time varying portion, followed by a first,
- 7                 time-varying portion, followed by a second, non-time varying portion, followed by a second,
- 8                 time-varying portion, followed by a third, non-time varying portion, one of the first and second, time-
- 9                 varying portions having a positive slope and the other one of the first and second , time-
- 10          varying portions having a negative slope, wherein the slope of the time varying portions are
- 11          determined by comparing said input signal to a specified criterion based in part of the various
- 12          slope requirements for the time varying portions;
- 13          said shape detector producing a shape detection pulse and an associated value for the
- 14          second, non-time varying portion each time said predetermined sequence is detected; and
- 15          a time window for determining whether said shape detection pulse is produced at a
- 16          predetermined rate expected for the series of synchronization pulses; and
- 17          a voltage window for determining whether the average value of one of said second time-
- 18          varying portions is substantially lower or the same as, but higher than the lower DC value
- 19          detected within the time-equivalent of a segment of video; and
- 20          an evaluator responsive to the produced shape detection pulses and said associated values
- 21          of said second, non-time varying portions for determining whether one of said associated values

22 of said produced second, non-time varying portions is substantially higher, lower, or the same as  
23 a reference value derived from a previous segment of the input signal.

1 21. (Cancelled)

1 22. (Currently Amended) A method for detection of a synchronization pulse from an input  
2 signal having a plurality of non-synchronization pulses, comprising:

3 determining time-varying properties of the input signal having the synchronization pulse;  
4 and

5 detecting, from said determined, time-varying properties of the input signal the presence  
6 of the synchronization pulse; and

7 determining whether the average value of one of said time-varying portions is  
8 substantially lower or the same as, but higher than the lower DC value detected within the time-  
9 equivalent of a segment of video.

1 23. (Currently Amended) A method for detection of a synchronization pulse from an input  
2 signal having a plurality of non-synchronization pulses, comprising:

3 determining time-varying slopes of an input signal having the synchronization pulse;  
4 comparing the determined time-varying slopes with time-varying slopes expected of the  
5 synchronization pulse; and

6 producing, based on the comparison, an output signal indicative of the detection of the  
7 synchronization pulse;

8 determining whether said output signal is produced at a predetermined rate expected for  
9 the series of synchronization pulses; and

10       determining whether the average value of one of said time-varying portions is  
11       substantially lower or the same as, but higher than the lower DC value detected within the time-  
12       equivalent of a segment of video.

1       24. (Currently Amended) A method for detection of a synchronization pulse having a  
2       substantially non-time varying portion and a substantially time-varying portion, the method  
3       comprising:

4           determining time varying slopes of one of the portions;  
5           comparing the determined time-varying slopes with time-varying slopes expected of the  
6       one of the portions of the synchronization pulse; and  
7           producing, based on the comparison, an output signal indicative of the detection of the  
8       synchronization pulse;

9           determining whether said output signal is produced at a predetermined rate expected for  
10       the series of synchronization pulses; and  
11           determining whether the average value of one of said time-varying portions is  
12       substantially lower or the same as, but higher than the lower DC value detected within the time-  
13       equivalent of a segment of video.

1       25. (Currently Amended) A method for detection of a synchronization pulse within an input  
2       signal, such pulse having a substantially non-time varying portion and a substantially time-  
3       varying portion, the method comprising:  
4           determining time-varying slopes of the input signal to identify one of the portions;

5       comparing the determined time-varying slopes with time-varying slopes expected of the  
6    one identified one of the portions of the synchronization pulse; and  
7       producing, based on the comparison, an output signal indicative of the detection of the  
8    synchronization pulse;

9       determining whether said output signal is produced at a predetermined rate expected for  
10   the series of synchronization pulses; and

11       determining whether the average value of one of said time-varying portions is  
12   substantially lower or the same as, but higher than the lower DC value detected within the time-  
13   equivalent of a segment of video.

1   26. (Currently Amended) A method for detection of a synchronization pulse within each of a  
2   sequence of input signals having a predetermined rate, such pulse having a substantially non-  
3   time varying portion and a substantially time-varying portion, the method comprising:

4       determining time-varying slopes of each of the sequence of input signals to identify one  
5   of the portions of such one of the input signals;

6       comparing the determined time-varying slopes with time-varying slopes expected of the  
7   one identified one of the portions of the synchronization pulse;

8       producing, based on the comparison, output signals indicative of the detection of the  
9   synchronization pulses of the sequence of input signals; and

10       comparing rate of production of the output pulses with the predetermined rate of the input  
11   signals;

12       determining whether said output pulses are produced at a predetermined rate expected for  
13   the series of synchronization pulses; and

14        determining whether the average value of one of said time-varying portions is  
15        substantially lower or the same as, but higher than the lower DC value detected within the time-  
16        equivalent of a segment of video.

1        27. (Currently Amended) A system for detecting a synchronization pulse within an input signal,  
2        such synchronization pulse having a substantially non-time varying portion followed by a  
3        substantially time-varying portion, the system comprising:

4              a waveform characteristic detector for producing a detection signal in response to a  
5              comparison between actual slope variations in the input signal and a predetermined slope  
6              criterion representative of one of the portions of the synchronization pulse; and  
7              a pulse generator for producing an output pulse in response to the detected signal  
8              produced by the waveform characteristic generator

9              a time window for determining whether said output pulse is produced at a predetermined  
10          rate expected for the series of synchronization pulses; and  
11          a voltage window for determining whether the average value of one of said time-varying  
12          portions is substantially lower or the same as, but higher than the lower DC value detected within  
13          the time-equivalent of a last segment of video.

1        28. (Currently Amended) A system for detecting a synchronization pulse within an input signal,  
2        comprising:  
3              an detector responsive to samples of the input signal for separating substantially an non-  
4              time varying portion of the input signal from a substantially time varying portion of the input  
5              signal;

6           a timer for determining a time duration of one of the portions; and  
7           a processor for detecting the synchronization pulse in response to the determined time  
8       duration; and  
9           a window mechanism for determining whether the average value of one of said time-  
10          varying portion is substantially lower or the same as, but higher than the lower DC value  
11          detected within the time-equivalent of a last segment of video.